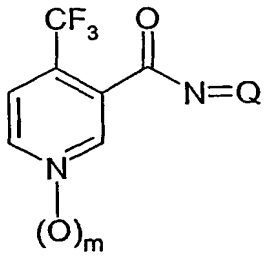
CLAIMS

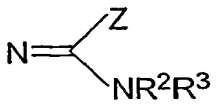
1. A compound of the formula (I):



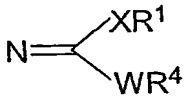
(I)

wherein:

N=Q is a formula (A) or (B):



(A)

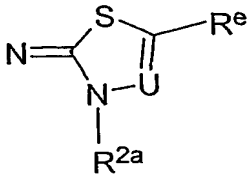


(B)

Z is YR^1 or NR^5R^6;

or when Z is YR^1, R^1 and R^3 may form together with the adjacent –Y-C-NR^2- atoms, a five or six membered saturated heterocyclic ring which optionally contains an additional N or O atom, and is unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl or imino group, and which ring is optionally fused to a benzene ring optionally substituted by R^7;

or when Z is YR^1, R^1 and R^3 may form together with the adjacent -Y-C-NR^2- atoms, a group (A^2):



(A^2)

Y, X and W are each independently O or S;

or R^1 and R^4 may form together with the adjacent –X-C-W- group, a five or six membered unsaturated, partially saturated or saturated heterocyclic ring, unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl group;

R^1 is $(C_1$-$C_8)$alkyl, $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl or $(C_3$-$C_8)$cycloalkyl, which last four mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl which cycloalkyl is unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$heterocyclyl; or when Y is O is $(C_1$-$C_6)$alkylamino, $NH(C_3$-$C_8)$cycloalkyl or $NH(CH_2)_sR^{11}$;

R^{2a} is $(C_1$-$C_8)$alkyl, $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $(C_1$-$C_6)$alkoxy, $(C_3$-$C_6)$alkenyloxy, $(C_3$-$C_6)$alkynyloxy, $(C_1$-$C_6)$alkylamino, di-$(C_1$-$C_6)$alkylamino, $NHCO(C_1$-$C_6)$alkyl, $NHSO_2(C_1$-$C_6)$alkyl, $CO(C_1$-$C_6)$alkyl or $SO_2(C_1$-$C_6)$alkyl which last thirteen mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl which cycloalkyl is unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$, $-(CR^9R^{10})_p$heterocyclyl, OH, SO_2R^{11}, NH_2, $NHCOR^{11}$, NHR^{11}, $NH(C_3$-$C_8)$cycloalkyl, $NH(CH_2)_sR^{11}$, $O(CHR^{10})_rR^{11}$; $O(CH_2)_r$heterocyclyl or $N=C[(C_1$-$C_6)$alkyl$]_2$; or is $(C_3$-$C_6)$alkenyl substituted by R^{11};

R^2 and R^5 are each independently R^{2a} or H;

R^3 and R^6 are each independently H or R^1;

R^4 is $(C_1$-$C_6)$alkyl substituted by R^8; or is $(C_3$-$C_6)$alkenyl, $(C_3$-$C_6)$alkynyl or $(C_3$-$C_8)$cycloalkyl which last three mentioned groups are unsubstituted or substituted by one or more R^8 groups; or is $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl unsubstituted or substituted by one or more R^8 groups; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$heterocyclyl; or when W is O, R^4 is $(C_1$-$C_6)$alkylamino;

or R^2 and R^3 together with the adjacent N atom form a 3 to 8-membered unsaturated, partially saturated or saturated heterocyclic ring which optionally contains up to three additional N, O or S atoms and which ring is unsubstituted or substituted by one or more R^7 groups;

R^7 is R^8, R^4, $(C_1$-$C_6)$alkyl or CH_2OH;

R^8 is halogen, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy, $S(O)_nR^{12}$, CN, $CO_2(C_1$-$C_6)$alkyl, CO_2H, NO_2, OH, amino, $(C_1$-$C_6)$alkylamino, di-$(C_1$-$C_6)$alkylamino, carbamoyl, $(C_1$-$C_6)$-alkylcarbamoyl, di-$(C_1$-$C_6)$-alkylcarbamoyl, $CH[O(C_1$-$C_6)$alkyl$]_2$, $(C_3$-$C_6)$alkenyloxy, $(C_3$-$C_6)$alkynyloxy or $O(CH_2)_rR^{11}$;

R^9 and R^{10} are each independently H, $(C_1$-$C_6)$alkyl or $(C_1$-$C_6)$haloalkyl;

R^{11} is aryl unsubstituted or substituted by one or more groups selected from (C_1-C_6)alkyl, (C_1-C_6)haloalkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, (C_3-C_8)cycloalkyl, -$(CH_2)_uR^{13}$, heterocyclyl, halogen, (C_1-C_6)alkoxy, (C_1-C_6)haloalkoxy, $S(O)_nR^{12}$, CN, CO_2(C_1-C_6)alkyl, NO_2, amino, (C_1-C_6)alkylamino and di-(C_1-C_6)alkylamino;

R^{12} is (C_1-C_6)alkyl or (C_1-C_6)haloalkyl;

R^{13} is phenyl unsubstituted or substituted by one or more groups selected from halogen, (C_1-C_6)alkyl and (C_1-C_6)haloalkyl;

R^e is H, (C_1-C_6)alkyl, (C_2-C_6)alkenyl, (C_2-C_6)alkynyl, (C_3-C_8)cycloalkyl, (C_3-C_8)cycloalkyl-(C_1-C_6)alkyl, halogen, (C_1-C_6)alkoxy, (C_1-C_6)haloalkoxy, $S(O)_nR^{12}$, (C_3-C_6)alkenyloxy, (C_3-C_6)alkynyloxy, -$(CH_2)_pR^{11}$, heterocyclyl, CN, CO_2(C_1-C_6)alkyl, NO_2, amino, (C_1-C_6)alkylamino, di-(C_1-C_6)alkylamino or $O(CH_2)_rR^{11}$ wherein r is 0 or 1;

U is N or CH,

m, s and u are each independently 0 or 1;

n is 0, 1 or 2;

p is 0, 1, 2 or 3;

r is 0 or an integer from 1 to 6; and each heterocyclyl in the above mentioned radicals is independently a mono or bicyclic heterocyclic radical having 3 to 7 ring atoms in each ring and 1 to 4 hetero atoms selected from N, O and S;

with the proviso that in (A) when Z is NR^5R^6 then up to three of R^2, R^3, R^5 and R^6 are not simultaneously H;

or a pesticidally acceptable salt thereof.

2. A compound or a salt thereof as claimed in claim 1, wherein Z is YR^1;

or when Z is YR^1, R^1 and R^3 may form together with the adjacent -Y-C-NR^2- atoms, a five or six membered saturated heterocyclic ring which optionally contains an additional N or O atom, and is unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl or imino group, and which ring is optionally fused to a benzene ring optionally substituted by R^7;

one of X and W is O and the other is S;

or R^1 and R^4 may form together with the adjacent -X-C-W- group, a five or six membered unsaturated, partially saturated or saturated heterocyclic ring,

unsubstituted or substituted by one or more R^7 groups or one of the ring carbon atoms may form a carbonyl group.

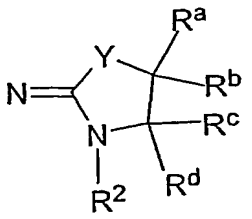
3. A compound or a salt thereof as claimed in claim 1 or 2, wherein R^1 is (C_1-C_8)alkyl or (C_3-C_6)alkenyl, which groups are unsubstituted or substituted by one or more groups selected from (C_1-C_4)alkoxy, $S(O)_nR^{12}$ and OH; or is $-(CR^9R^{10})_pR^{11}$.

4. A compound or a salt thereof as claimed in any one of claims 1 to 3, wherein R^2 is H, (C_3-C_6)alkenyl, (C_3-C_6)alkynyl, (C_1-C_6)alkoxy, (C_3-C_6)alkenyloxy, (C_3-C_6)alkynyloxy, $-(CR^9R^{10})_pR^{11}$, $-(CR^9R^{10})_p$heterocyclyl, NHR^{11} or $O(CH_2)_rR^{11}$; or is (C_1-C_8)alkyl unsubstituted or substituted by a di-(C_1-C_4)alkylamino group.

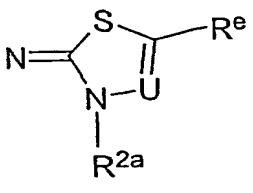
5. A compound or a salt thereof as claimed in any one of claims 1 to 4, wherein R^3 is (C_1-C_8)alkyl or (C_3-C_6)alkenyl, which groups are unsubstituted or substituted by an (C_1-C_4)alkoxy or OH group; or is H or $-(CR^9R^{10})_pR^{11}$.

6. A compound or a salt thereof as claimed in any one of claims 1 to 5, wherein R^4 is (C_1-C_8)alkyl substituted by (C_1-C_4)alkoxy or OH; or is (C_3-C_6)alkenyl, (C_3-C_6)alkynyl or (C_3-C_8)cycloalkyl which last three mentioned groups are unsubstituted or substituted by an (C_1-C_4)alkoxy or OH group; or is (C_3-C_8)cycloalkyl-(C_1-C_6)alkyl which cycloalkyl is unsubstituted or substituted by an (C_1-C_4)alkoxy or OH group; or is $-(CR^9R^{10})_pR^{11}$ or $-(CR^9R^{10})_p$heterocyclyl.

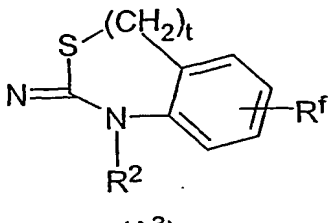
7. A compound or a salt thereof as claimed in claim 1, wherein N=Q is a formula (A) in which Z is YR^1 and R^1 and R^3 form together with the adjacent –Y-C-NR^2- atoms, a heterocyclic ring which is of formula (A^1), (A^2), (A^3) or (A^4):



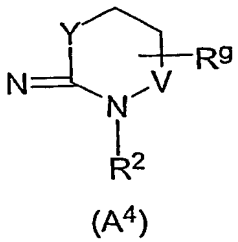
(A^1)



(A^2)



(A^3)



(A^4)

wherein:

Y is O or S;

U is N or CH;

V is O or CH_2;

t is 0 or 1;

R^a, R^b, R^c and R^d are each independently selected from H, $(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$haloalkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, halogen, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy, $S(O)_nR^{12}$, $(C_2$-$C_6)$alkenyloxy, $(C_2$-$C_6)$alkynyloxy, R^{11}, heterocyclyl and $O(CH_2)_rR^{11}$ wherein r is 0 or 1;

or R^a and R^b, or R^c and R^d may form a carbonyl or imino group;

R^e and R^f are each independently selected from H, $(C_1$-$C_6)$alkyl, $(C_2$-$C_6)$alkenyl, $(C_2$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl, halogen, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy, $S(O)_nR^{12}$, $(C_2$-$C_6)$alkenyloxy, $(C_2$-$C_6)$alkynyloxy, $-(CH_2)_pR^{11}$, heterocyclyl, CN, $CO_2(C_1$-$C_6)$alkyl, NO_2, amino, $(C_1$-$C_6)$alkylamino, di-$(C_1$-$C_6)$alkylamino and $O(CH_2)_rR^{11}$ wherein r is 0 or 1;

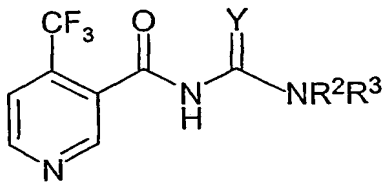
R^g is H, $(C_1$-$C_6)$alkyl, halogen, $(C_1$-$C_6)$alkoxy, $CO_2(C_1$-$C_6)$alkyl or R^{11};

R^{2a} is $(C_1$-$C_6)$alkyl unsubstituted or substituted by one or more groups selected from halogen, $(C_1$-$C_6)$alkoxy, $CH[O(C_1$-$C_6)alkyl]_2$, CN, $CO_2(C_1$-$C_6)$alkyl and CO_2H; or is $(C_3$-$C_6)$alkenyl unsubstituted or substituted by one or more halogen or phenyl groups; or is $(C_3$-$C_6)$alkynyl, $(C_3$-$C_8)$cycloalkyl, $(C_3$-$C_8)$cycloalkyl-$(C_1$-$C_6)$alkyl, $(C_1$-$C_6)$alkoxy, $(C_3$-$C_6)$alkenyloxy or $(C_3$-$C_6)$alkynyloxy; or is $-(CHR^{10})_pR^{11}$ wherein R^{10} is H or $(C_1$-$C_8)$alkyl, p is 0 or 1 and R^{11} is phenyl unsubstituted or substituted by one or more groups selected from halogen, $(C_1$-$C_6)$haloalkyl, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$haloalkoxy and phenoxy unsubstituted or substituted by one or more groups selected from halogen and $(C_1$-$C_6)$haloalkyl; or is $O(CHR^{10})_rR^{11}$ wherein R^{10} is H or $(C_1$-$C_6)$alkyl, r is 1 and R^{11} is phenyl unsubstituted or substituted by one or more groups selected from $(C_1$-$C_6)$haloalkyl, $(C_1$-$C_6)$alkoxy and NO_2; and

R^2 is R^{2a} or H.

8. A process for the preparation of a compound of formula (I) or a salt thereof as defined in any one of claims 1 to 7, which process comprises:

a) where N=Q is a formula (A) in which Z is YR^1, m is zero, and R^1, R^2 and R^3 are as defined in claim 1, the reaction of a compound of formula (II):



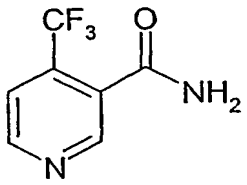
(II)

wherein Y, R^2 and R^3 are as defined in formula (I), with a compound of formula (III):

$$R^1L \qquad (III)$$

wherein R^1 is as defined in formula (I) and L is a leaving group in the presence of a base; or

b) where N=Q is a formula (A) in which Z is YR^1, m is zero, R^3 is H, and R^1 and R^2 are as defined in formula (I), the 1-pot reaction of a compound of formula (IV):



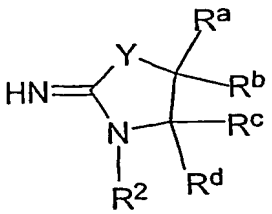
(IV)

with a strong base, and an isothiocyanate or isocyanate compound of formula (V):

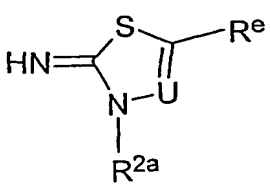
$$R^2\text{-}N{=}C{=}Y \qquad (V)$$

wherein R^2 is as defined in formula (I) to give the corresponding acylthiourea or acylurea intermediate of formula (II) above wherein R^3 is H, which is reacted with a compound of formula (III) as described in above process claim a); or

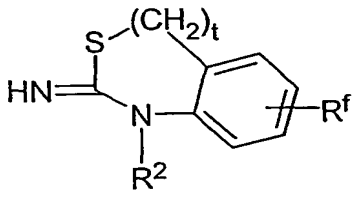
c) where N=Q is a formula (A) which is a heterocyclic ring of formula (A^1), (A^2), (A^3) or (A^4), wherein the various symbols are as defined in claim 7, the acylation of the corresponding compound of formula (A^{1a}), (A^{2a}), (A^{3a}) or (A^{4a}):



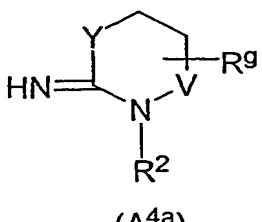
(A^{1a})



(A^{2a})

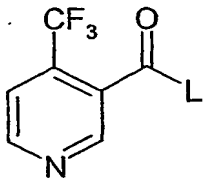


(A^{3a})



(A^{4a})

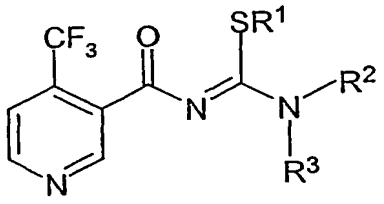
wherein the various symbols are as defined in claim 7, with a compound of formula (VI):



(VI)

wherein L is a leaving group; or

d) where N=Q is a formula (A) in which Z is NR^5R^6, m is zero, and R^2, R^3, R^5 and R^6 are as defined in formula (I), the reaction of a compound of formula (VII):



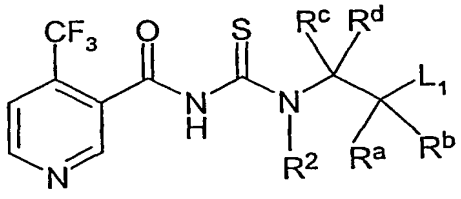
(VII)

wherein R^1, R^2 and R^3 are as defined in formula (I), with a compound of formula (VIII):

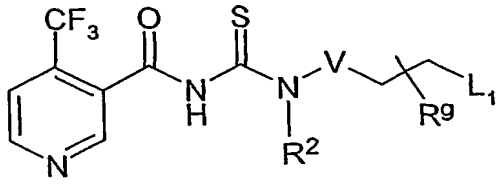
$$HNR^5R^6 \qquad \text{(VIII)}$$

wherein R^5 and R^6 are as defined in formula (I), in the presence of a base; or

e) where N=Q is a formula (A) which is a heterocyclic ring of formula (A^1) or (A^4), m is zero, Y is S and the other symbols are as defined in claim 7, the cyclisation reaction of a compound of formula (IX) or (X) respectively:



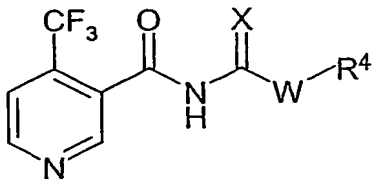
(IX)



(X)

wherein the various symbols are as defined in formula (I) and L_1 is a leaving group, in the presence of a base; or

f) where m is zero and N=Q is a formula (B) in which $R^1$and R^4 are as defined in formula (I), the reaction of a compound of formula (XI):



(XI)

wherein X, W and R^4 are as defined in formula (I), with a compound of formula (III) as defined in the above process a), in the presence of a base; or

g) where Q is as defined above, and m is 1 the oxidation of a corresponding compound in which m is 0; and

if desired, converting a resulting compound of formula (I) into a pesticidally acceptable salt thereof.

9. A pesticidal composition comprising a compound of formula (I) or a pesticidally acceptable salt thereof as defined in any one of claims 1 to 7, in association with a pesticidally acceptable diluent or carrier and/or surface active agent.

10. The use of compounds of the formula (I) or their salts as claimed in any of claims 1 to 7 as pesticides.